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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,275	05/31/2001	Stuart W. Sherlock	10559-421001/P10435	2606

20985 7590 09/10/2003

FISH & RICHARDSON, PC
4350 LA JOLLA VILLAGE DRIVE
SUITE 500
SAN DIEGO, CA 92122

EXAMINER

TSAI, CAROL S W

ART UNIT PAPER NUMBER

2857

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,275

Applicant(s)

SHERLOCK, STUART W.

Examiner

Carol S Tsai

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-- Th MAILING DATE of this communication appears on th cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 6-14, 16-24, and 26-30, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Publication 2002/0130807 to Hall et al. in view of U. S. Patent No. 4,952,193 to Talwar.

With respect to claims 1, 11, and 21, Hall et al. disclose a method of identifying data loss in a transmission system, comprising: shifting one of a received waveform and a transmitted waveform (see paragraph 0085), the transmitted waveform being a first signal that is transmitted from a transmitter to a receiver over a transmission medium, the received waveform being a second signal that is received by the receiver from the transmitter over the transmission medium (see Figs. 14 and 16 and paragraphs 0130, 0133, 0164, 0165, and 0171) and determining differences between the transmitted and received waveforms at various shift points (see paragraphs 0166 and 0171).

Hall et al. do not disclose identifying a smallest of the differences between the transmitted and received waveforms.

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Talwar teaches identifying a smallest of the differences between the transmitted and received waveforms (see col. 6, line 65 to col. 7, line36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hall et al.'s method to include identifying a smallest of the differences between the transmitted and received waveforms, as taught by Talwar, in order to minimize the corresponding multiple signal components of the received signal caused by the interfering signal from a radio transmitter (see Abstract, lines 1-4).

As to claim 2, 12, and 22, Hall et al. disclose generating a plot of the difference relative to the shift points (see Fig. 4).

Hall et al. do not disclose the smallest of the differences comprising a low vertex point on the plot.

Talwar teaches the smallest of the differences comprising a low vertex point on the plot (see Fig. 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hall et al.'s system to include the smallest of the differences comprising a low vertex point on the plot, as taught by Talwar, in order that user/operator can further identify and analyze the data loss between the transmitted and received waveforms via a plotted graph.

As to claims 3, 4, 13, 14, 23, and 24, Hall et al. also disclose moving the transmitted waveform relative to the received waveform in a first direction; and moving the transmitted waveform relative to the received waveform in a second direction (see paragraph 0085).

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As to claims 6, 16, and 26, Holt et al. do not disclose normalizing the transmitted and received waveforms.

Talwar teaches normalizing the transmitted and received waveforms (see Fig. 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hall et al.'s method to include normalizing the transmitted and received waveforms, as taught by Talwar, in order that only positive data of pulses can be displayed.

As to claims 7, 17, and 27 Hall et al. also disclose the transmitted and received waveforms comprising audio data (see paragraph 0129).

As to claims 8, 18, and 28, Hall et al. also disclose the transmission system comprising the transmitter, the transmission medium, and a receiver (see Fig. 20).

As to claims 9, 19, and 29, Hall et al. also disclose the shift points being defined in terms of time in the transmitted and received waveforms (see paragraph 0053).

As to claims 10, 20, and 30, Hall et al. also disclose the shift points being defined in terms of data samples in the transmitted and received waveforms (see paragraph 0094).

4. Claims 5, 15, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hall et al. in view of Talwar as applied to claims 1, 11, and 21 above, and further in view of U. S. Patent No. 4,805,096 to Crohn.

As noted above, Hall et al. in combination with Talwar teach all the features of the claimed invention, but do not disclose an odd number of shift points make up a plot.

Crohn teaches an odd number of shift points make up a plot (see col. 13, lines 30-36).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hall et al. in combination with Talwar's method to include an odd number of shift points make up a plot, as taught by Crohn, in order to provide both a rising edge and a falling edge in the same assignment (see col. 13, lines 31-32).

Response to Arguments

5. Applicant's arguments filed 08/04/2003 have been fully considered but they are not persuasive.

Applicant argues that neither Hall nor Talwar, taken separately or in combination, disclose or suggest determining differences between the transmitted and received waveforms at various shift points, the transmitted waveform being a first signal that is transmitted from a transmitter to a receiver over a transmission medium, and the received waveform being a second signal that is received by the receiver from the transmitter over the transmission medium. The Examiner disagrees with Applicant. As set forth above, Hall et al. do disclose determining differences between the transmitted and received waveforms at various shift points, the transmitted waveform being a first signal that is transmitted from a transmitter to a receiver over a transmission medium, and the received waveform being a second signal that is received by the receiver from the transmitter over the transmission medium (see Figs. 14 and 16 and paragraphs 0130, 0133, 0164, 0165, and 0171).

Applicant argues that Hall does not use a transmitted waveform but instead determines differences in received waveforms, for example, Hall describes receiving two pulse trains at the same time and performing a cross-correlation (see paragraph [0071] of Hall) that neither one of

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these pulse trains is the transmitted waveform. The Examiner disagrees with Applicant. Hall et al. do use a transmitted waveform determining difference in received waveforms (see Figs. 14 and 16 and paragraphs 0164-0166 and 0171; The receiving impulse radio unit 900 includes a processor 1408 that compares the first waveform 1502 and the second waveform 1504 to determine whether there is a change between the first waveform 1502 and the second waveform 1504 caused by an intruder 1102 entering the protection zone 1104)

Applicant argues that Talwar describes receiving an interfering signal, a received signal, a sample signal and a secondary sample signal (see column 6, line 65 to page 7, line 7 of Talwar) that neither one of these signals is a transmitted waveform as that term is used in the subject application. The Examiner disagrees with Applicant. Talwar does disclose receiving an interfering signal, a received signal, a sample signal and a secondary sample signal that either one of these signals is a transmitted waveform (see Fig. 2; FIG. 2 is a graph depicting the relationship between the degree of cancellation and the affect on such cancellation caused by a change in the frequency of the interfering signal and the time difference or mismatch between the interfering signal path between transmitter and receiver and the cancellation sample signal path).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (703) 305-0851. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703) 308-1677. The fax number for TC 2800 is (703) 308-7382. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (703) 308-1782.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 308-7382. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the

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examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. Tsai

09/05/03



MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800